

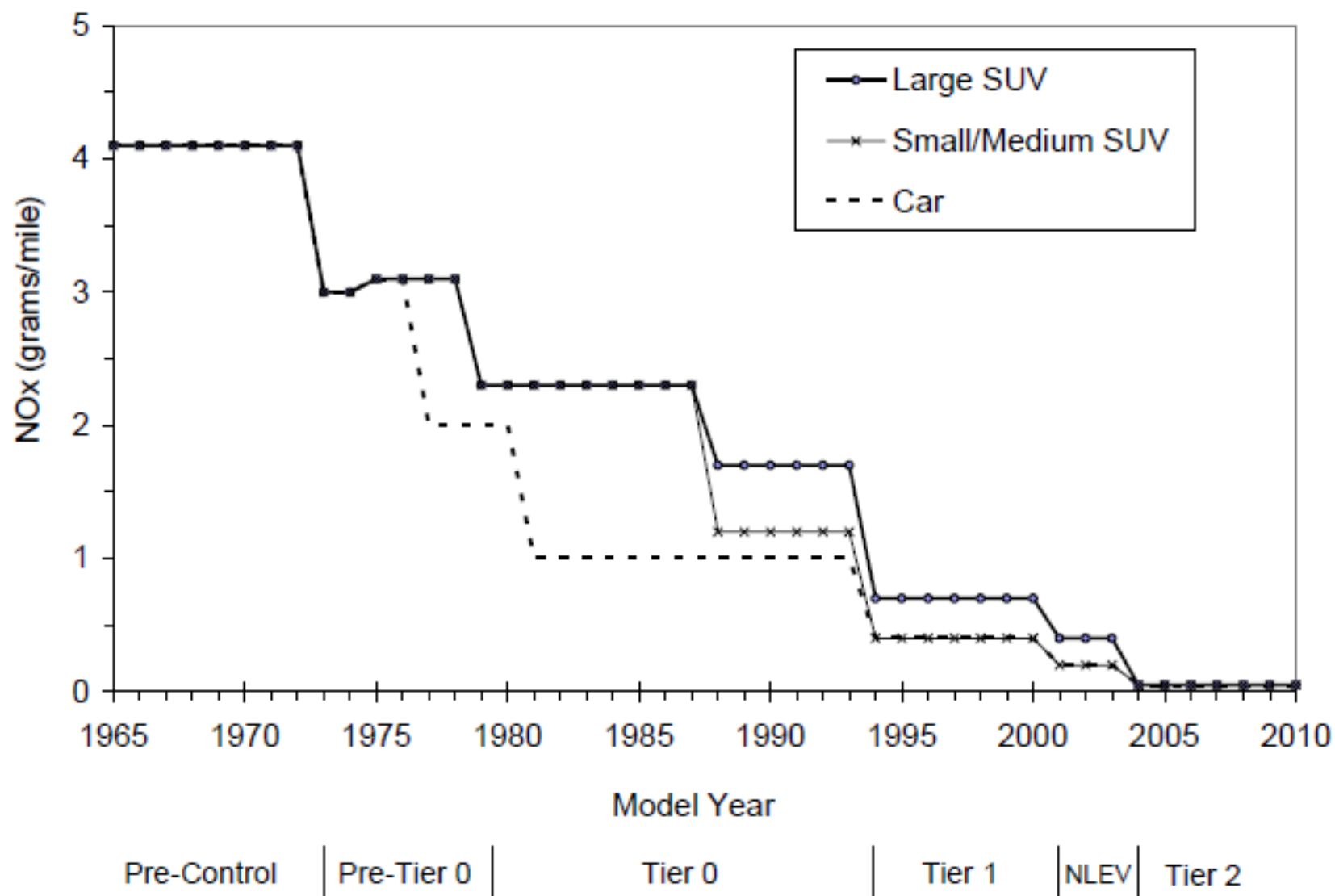
# Mobile Source

Breakout Session Handout

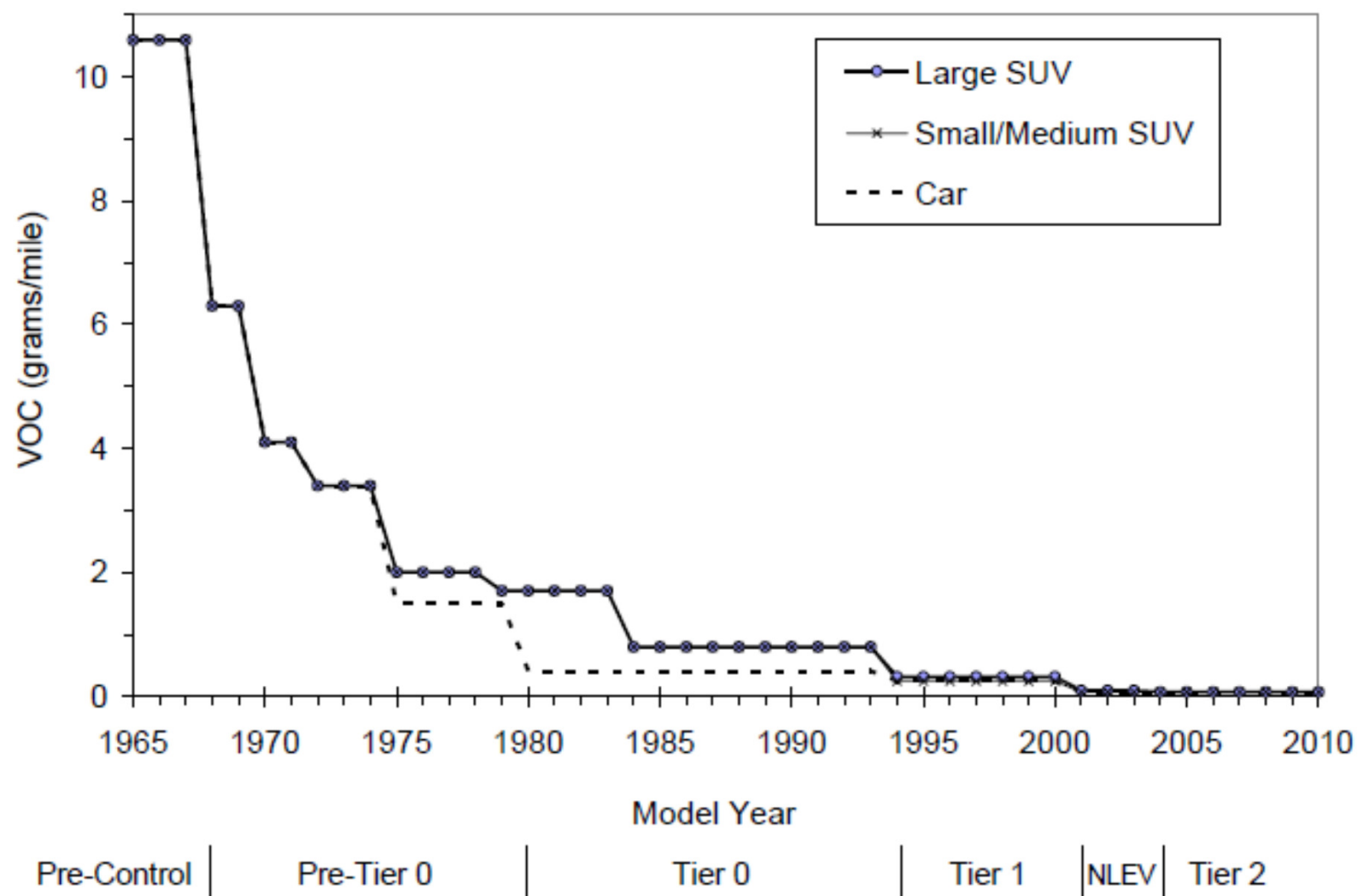
# Basket of Control Strategies - Mobile

- I/M program for counties that currently don't have one
- Clean vehicle emissions standards (e.g. CARB LEV II)
- One pound decrease in RVP
- Bundle of additional measures assumed to achieve a combined 3% reduction:
  - Alternative fuel fleets (e.g. natural gas and electric)
  - Diesel retrofits
  - Idle reduction
  - Trip reduction measures

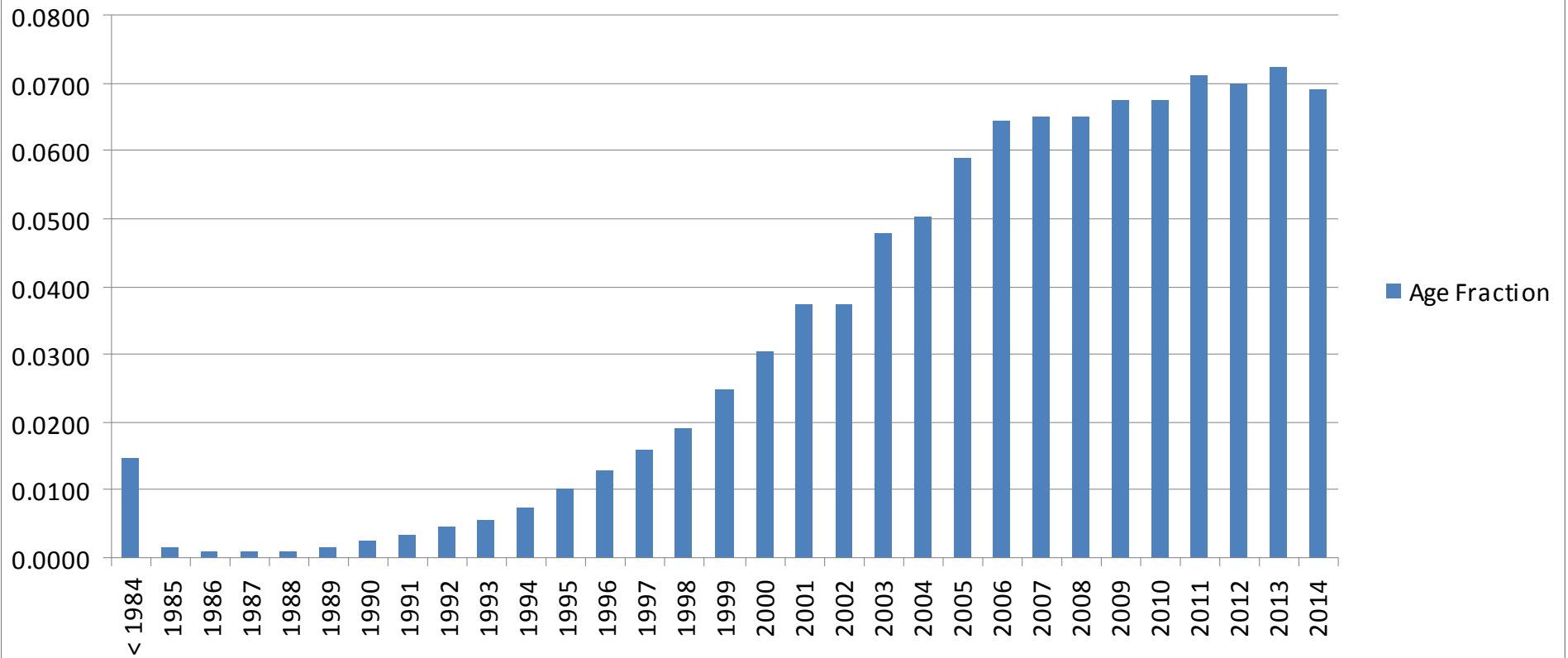
**Figure 5. Trend in federal NOx emission standards**



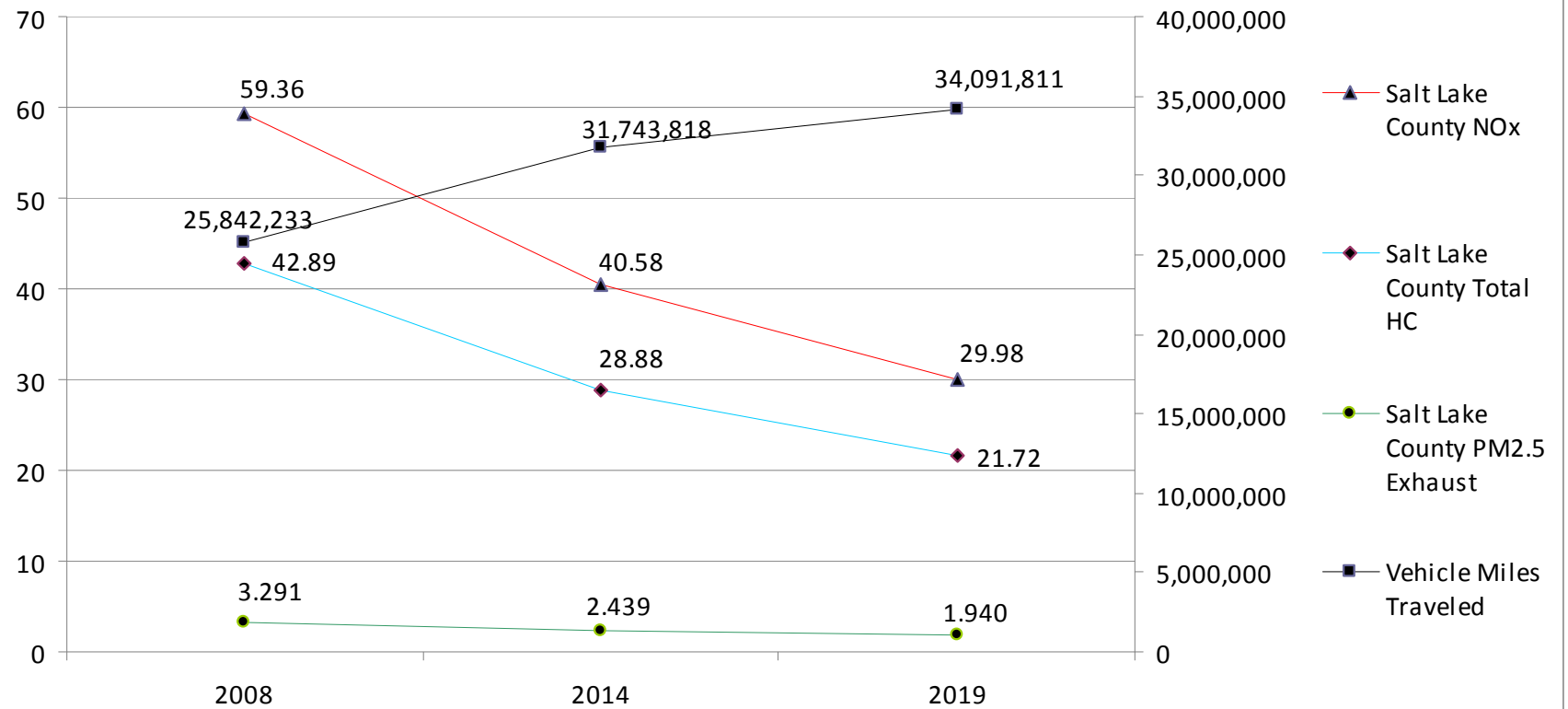
**Figure 6. Trend in federal VOC emission standards**



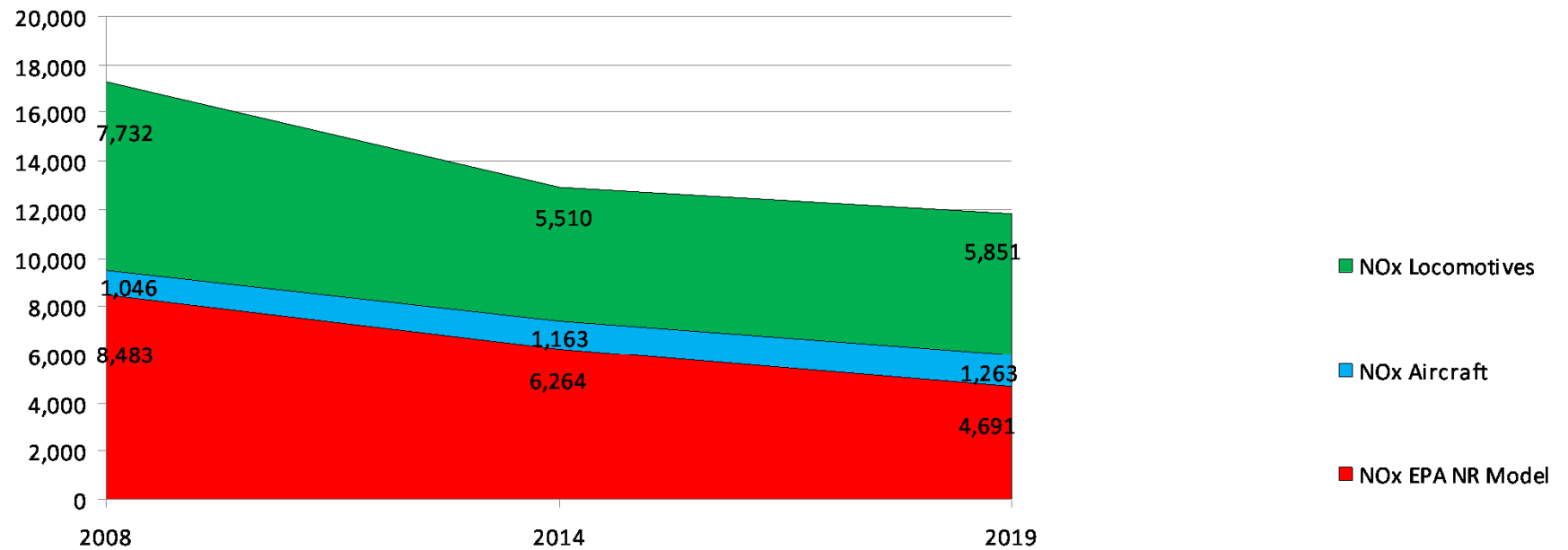
Age Distribution  
Light-duty Cars and Trucks up to 8,500 lb GVWR  
Winter 2014 Projection



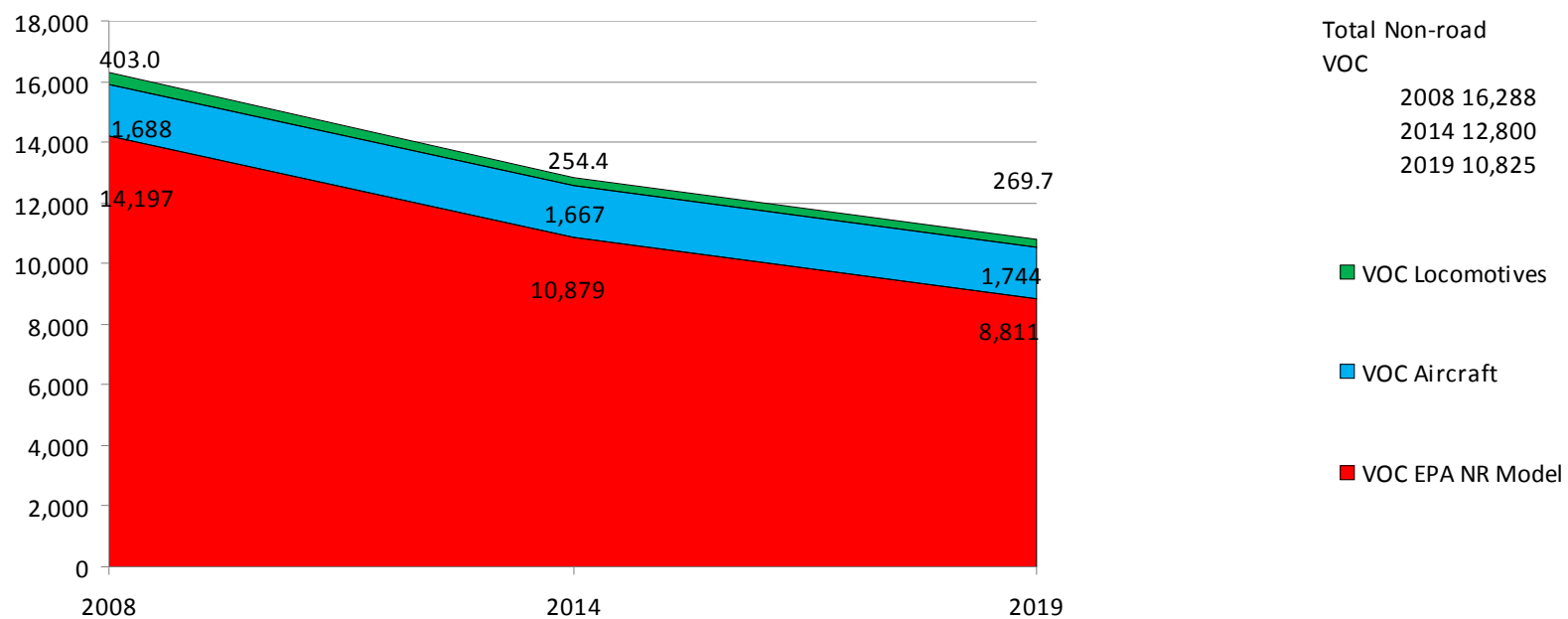
Salt Lake County On-road Mobile Sources  
NOx, Total HC and PM2.5 Exhaust  
Calendar Years (Winter) 2008, 2014 and 2019  
Tons per Winter Weekday



Non-road Mobile Source Emissions Aircraft, Locomotives and Miscellaneous Non-road Engines  
Nitrogen Oxides (NOx) Calendar Years 2008, 2014 and 2019 Tons per Year



**Non-road Mobile Source Emissions Aircraft, Locomotives and Miscellaneous Non-road Engines Volatile Organic Compounds (VOC) Calendar Years 2008, 2014 and 2019 Tons per Year**





# Area Source

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# Area Source Reduction Strategy For PM2.5 Domain –Reductions Within Category -VOC-

Reduction Strategy	VOC	PM 2.5	NOx
<b>Existing Rules Expanded From Current SLC and Utah Counties to PM2.5 Domain</b>			
R307-335 degreasing and solvent cleaning operations. Degreasing that is conducted in tanks and conveyORIZED degreasers.	18%		
R307-340 applies to surface coating of paper, fabric, vinyl, metal furniture, large appliance, magnet wire, flat wood and miscellaneous metal parts and products and graphics arts.	20%		
R307-343 emissions from wood furniture manufacturing	13%		
R307-341 application of cutback asphalt	0.05%		
R307-207 residential fireplaces/stoves	80% on red days	80% on red days	80% on red days
<b>New Rules or Amendment Existing Rule to Add Industry to PM2.5 Domain</b>			
Amend R307-340, surface coating rule to include architectural coating	21%		
Over the counter rule – reduce/substitute voc content in common use products	39%		
Petroleum dry cleaning rule	18% for industrial operations assume same for commercial operations		
Commercial bakery	10%		
Emission control of meat cooking from restaurant and catering	22%	22%	
Emission control of automobile refinishing	24%		
Solvent substitution of traffic markings	5%		
Emission control of fabric printing, coating and dying	26%		

# Reduction Strategy For PM2.5 Domain – Agriculture

Reduction Strategy	Ammonia Reduction	Adjusted Ammonia Reduction <sup>1</sup>
<b>Dietary manipulation in swine and poultry</b>	8.5-10%/1% reduction of crude protein. Addition of fermentable carbohydrates (bran or pulp) results in 14% reduction.	<b>2.3-2.7%/1% reduction in crude protein.</b>
<b>Manure management</b>		
Aluminum sulfate amendment after fresh poultry slurry application	96%	26%
Composting manure management – zeolite layering over compost pile	44% in poultry	12%
<b>Mineral/chemical additives:</b>		
Triple superphosphate	33%	9%
Superphosphate	24%	6.5%
Calcium chloride	13%	3.5%
Gypsum	8%	2%
<b>Biofiltration control for livestock housing</b>	<b>70%</b>	<b>19%</b>

Source; Iowa State University Extension, *Practices to Reduce Ammonia Emissions from Livestock Operations*, July 2004.

# Point Source

Breakout Session Handout

## Point Sources

Recall that these are the largest of the industrial stationary sources situated in the modeling domain. As such, they will be addressed individually throughout the process. By contrast, many smaller stationary sources are treated in aggregate as belonging to the Area Source category.

Addressing the “Gap” between the actual emissions of 2008 and current allowable emissions levels used in compiling projection-year inventories:

The size of this “Gap” makes it more difficult to model attainment of the health standard.

It is likely that the “Gap” is overly conservative.

It is currently calculated in the most conservative way possible.

DAQ is looking to minimize this difference using two concurrent approaches:  
Considering ways to reduce actual emissions at these facilities.

This will take place, for each source, as part of the RACT analysis  
Considering different ways to quantify the allowable emissions

Recall that RACT means Reasonably Available Control Technology.

RACT is a required element of any SIP.

RACT can be more stringent than BACT.

A DAQ permitting engineer has been assigned to each source in order to ensure that it meets a current interpretation of RACT.

Examples of RACT application:

- Replacement of on-site power generation with line-power or cleaner engines
- Increased capture of particulate emissions through improved performance of control devices (e.g. upgraded filters for baghouses), and/or better ducting
- Replacement of older burners with newer low-NO<sub>x</sub> technology
- Addition of catalytic oxidation to control VOC emissions in exhaust streams
- Improved sulfur recovery at refineries